Office of
ELECTRIC TRANSMISSION & DISTRIBUTION
ELECTRIC DISTRIBUTION TRANSFORMATION PROGRAM

EPRI PEAC Corp.

Certification Model Program and Interconnection Agreement Tools

Examples of distributed generation equipment

Background

New technologies and the innovative application of existing products for distributed generation (DG) interconnection can benefit the development of a more robust national electric power system (EPS). However, verifying conformance to proven standards while satisfying sound rules of engagement for DG interconnection is crucial to ensuring effective and compatible interconnection and avoiding negative effects on EPS operation, reliability, and safety. In addition, verified conformance often provides more benefits for DG, such as enhanced interoperability, quality, and reliability and project cost savings.

Goals

Goals for this work are to develop an industrywide certification and laboratory accreditation model and information tools to simplify interconnection agreements. Meeting these goals will establish a benchmark to ensure a certified product has been manufactured and type-tested to well-established standards. The end-user is then assured the product conforms to quality standards and need not be concerned with redundant testing or evaluation. This also provides DG with the framework for economies of design, greater product and service quality, more interoperability, and better production and delivery efficiency. The framework thus promotes the U.S. as a world leader in providing recognized products and services for quality DG and interconnection.

Results

To achieve these goals, EPRI PEAC Corp. is working with the Department of Energy, DG manufacturers, standards organizations, the electric utility industry, and other stakeholders to:

- Develop DG certification criteria
- Develop a DG certification and lab accreditation pilot effort that will be applicable to a broad spectrum of DG equipment and user communities
- Draft an implementation plan for DG certification and laboratory accreditation
- Develop a DG interconnection agreement handbook
- Organize stakeholders
- Develop support training and information resources
- Provide DG hotline services

Work has started to develop the organization, plans, and support tools for DG equipment certification and test laboratory accreditation and establish background information to simplify efforts and lower costs of effective DG-grid connections.

Roadmap and Plan for DG Certification and Laboratory Accreditation

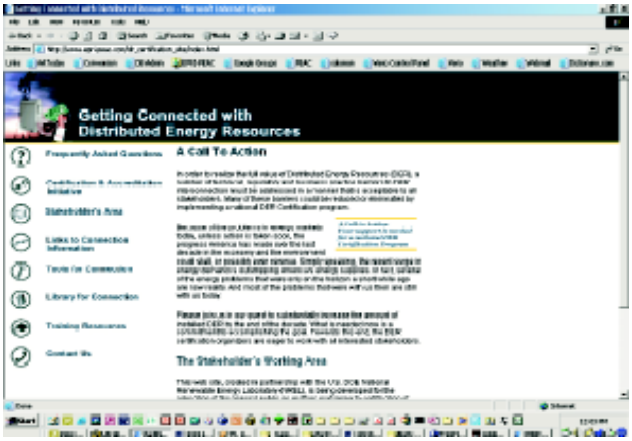
The roadmap and plan for DG certification and laboratory accreditation is being developed via industry participation and creation of an "oversight board." The plan will define the criteria and protocols for certification and lab accreditation and methods for soliciting stakeholder participation. It will identify and build on existing support materials and set milestones for a draft model program for equipment to receive a "grid-compatible" certificate. The draft program will be pilot tested to provide feedback for its refinement.

Draft Certification and Labeling Criteria for Interconnection

The certification and labeling criteria for interconnection will involve identifying the baseline electrical environment, identifying consensus performance criteria and test methods, pilot testing DG equipment (with utility and equipment manufacturer participation) to analyze the overall draft certification labeling processes for DG, and recommending improvements and rationale for additional needs for the model program.

Beta Web Site for DG Certification

The Web site for DG certification is an information transfer site for stakeholders participating in certification and accreditation efforts. It contains information about issues related to certification and interconnection of DG equipment such as a library for certification, tools for certification, information and links to other certification activities, and communication links to certification information.



The beta site for distributed generation certification

Organizing Stakeholders

Key stakeholders were identified and contacted to help develop a roadmap to a DG certification and accreditation plan and assist with the development of the plan for follow-on certification and accreditation activities. Stakeholders include members of the Institute of Electrical and Electronics Engineers Standards Coordinating Committee 21 1547 work groups, the Electric Power Systems Interconnection Working Group; and Underwriters Laboratories Standards Technical Panel 1741 (for Inverters, Converters, and Controllers for Use in Independent Power Systems) as well as manufacturers of interconnection hardware for DG systems and components.

DG Interconnection Handbook

The handbook will explore terms and conditions, obligations to serve, disconnection and reconnection, incremental demand charges, network interconnection of DG, communications, equipment pre-certification, designation of utility contact persons, time periods for processing applications and reporting requirements, and the technical requirements for interconnection and parallel operation. A pre-installation assessment procedure, an industry standard approach for resolving disputes, an annotated bibliography, and the requirements of specific states will also be included.

Next Steps

EPRI PEAC's report on the certification and lab accreditation draft model approach and the draft outline for the interconnection handbook will soon be ready for stakeholder review and feedback. Building on that, the model program for cerfication and laboratory accreditation and the interconnection agreement handbook and support tools will be drafted for review and feedback. Finally, EPRI PEAC will work with the National Renewable Energy Laboratory to develop a survey to determine the interested and most qualified laboratories for accreditation. Candidate laboratories will be solicited to determine their commitment for accreditation. The survey results will be compiled and analyzed, and a report with recommendations will be provided to the National Renewable Energy Laboratory.

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